

Koch, Kristine

From: Koch, Kristine
Sent: Monday, February 15, 2016 9:27 AM
To: 'Ryan Barth'; Sheldrake, Sean
Cc: Bob Wyatt; Patty Dost; Carl Stivers; Ben Hung; John Verduin; Joe Smith; myron.burr@siltronic.com; James Peale
Subject: RE: Gasco Sediments Site Capping Demonstration Memorandum - For Your Review

Thanks Ryan. We'll consider this as we are finalizing the FS and PP.

Kristine Koch
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From: Ryan Barth [mailto:rbarth@anchorqea.com]
Sent: Friday, February 12, 2016 2:55 PM
To: Sheldrake, Sean <sheldrake.sean@epa.gov>; Koch, Kristine <Koch.Kristine@epa.gov>
Cc: Bob Wyatt <rjw@nwnatural.com>; Patty Dost <pdost@pearllegalgroup.com>; Carl Stivers <cstivers@anchorqea.com>; Ben Hung <bhung@anchorqea.com>; John Verduin <jverduin@anchorqea.com>; Joe Smith <jsmith@anchorqea.com>; myron.burr@siltronic.com; James Peale <jpeale@maulfoster.com>
Subject: Gasco Sediments Site Capping Demonstration Memorandum - For Your Review

Sean and Kristine –

We appreciate EPA's continuing work with NW Natural to incorporate site-specific information developed under the Gasco Sediments Site Consent Order into the Proposed Plan. When we met on November 2, 2015 to discuss the EPA's draft harbor-wide remedial technology assignment decision trees dated October 30, 2015 we agreed that one of the key considerations for technology assignments at the Gasco site is capping demonstration. The EPA decision trees included ten technical elements that need to be demonstrated for capping to be an acceptable remedial technology. During the meeting, we collectively discussed what specific demonstrations EPA would require for each of the ten elements for determining cap suitability. We understand that the specific demonstrations are still under consideration and agreed that it would be helpful if NW Natural provided a proposed approach for Gasco site-specific demonstrations for each element consistent with capping guidance. To that end, the attached memorandum provides NW Natural's recommended demonstrations for Gasco. Our recommendations are detailed (e.g., includes detailed specific methods of analyses and associated data needs) to facilitate review and use by the EPA technical team.

We know that your team is currently developing the Portland Harbor Proposed Plan and we believe the attached recommended demonstrations will support refining that development for the Gasco area using information from the work we've done for EPA in the EE/CA. Below please find a high-level summary of the demonstration elements and our recommendations consistent with available guidance to help expedite your review.

Bob will contact Sean to further determine how NW Natural can support the capping demonstration process to further our goal of a protective, expedited cleanup at Gasco and to request a meeting to continue our discussions of this important work.

1. **Element 1—Contaminant Confinement:** demonstrate the contamination can reliably be physically and chemically contained through use of appropriate cap thickness and material type using Dr. Danny Reible’s chemical isolation model with proposed Gasco-specific input parameters.
2. **Element 2—Flood Flow Impacts:** demonstrate the cap can be placed without causing unacceptable flood rise using cut-fill analyses and hydraulic/hydrodynamic modeling, if necessary.
3. **Element 3—Erosion Resistance:** demonstrate the cap will remain in place when subjected to flow, wave, and anthropogenic-induced erosive forces using the numerical methodologies presented in the EPA guidance: *Assessment and Remediation of Contaminated Sediments (ARCS) Program: Guidance for In-Situ Subaqueous Capping of Contaminated Sediments*.
4. **Element 4—Presence and Effect of Debris:** demonstrate debris will not prevent an effective cap from being designed and implemented through assessment of identified debris at Gasco and ability of this debris to be effectively capped using the cap demonstration elements analyses.
5. **Element 5—Slope Stability:** demonstrate the slope can support the cap using U.S. Army Corps numerical criteria.
6. **Element 6—Bearing Capacity:** demonstrate the sediment bed can adequately support the cap using U.S. Army Corps and EPA numerical criteria and experience at other similar sediment cleanup sites.
7. **Element 7—Treatment Requirements:** demonstrate the cap treats EPA-defined principle threat waste (PTW) to the extent practicable using the cap demonstration elements analyses.
8. **Element 8—Habitat Impacts:** demonstrate placement of the cap will not result in unacceptable loss of shallow water habitat in accordance with substantive requirements.
9. **Element 9—Habitat Mitigation, as Necessary:** demonstrate adverse effects on natural resources will be avoided or mitigated in accordance with substantive requirements
10. **Element 10—Department of State Lands (DSL) Cap Authorization Requirements:** demonstrate DSL approval of cap placement in the proposed location can be obtained.
11. **Operational Considerations:** Although not included in the ten EPA-identified technical cap demonstration elements above, operational considerations would also be evaluated in accordance with the U.S. Army Corps and EPA cap design guidance.

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